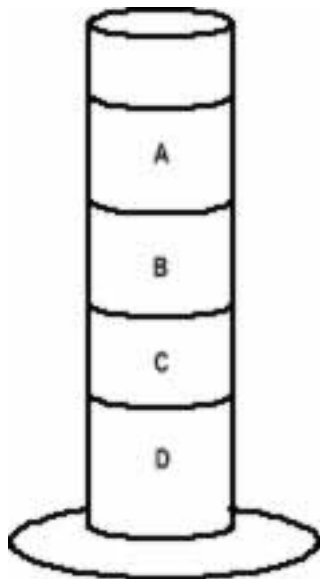


NAME: _____

Density=mass/volume

Introduction:

Density is the measure of how much matter (mass) is packed into an item or material compared to the amount of space (volume) it takes up. If two materials occupy the same amount of space, the that is more dense will have a larger mass than a material that is less dense.



Goal:

Each colored solution is different!
Your job is to order them in the graduated cylinder in such a way that you will have 4 distinct layers.

Hint: If the colors mix, you have added the solution with too much force or made an incorrect guess in the order, dump your solution down the drain and try again!!!

Don't forget to record and use the observations you have already made to help your figure it out!

Materials:

Colored solution (4 colors total)
Graduated cylinder and / or test tubes
Dropper(s)

Procedure

1. Designate a dropper for each solution, do not mix them to avoid cross contamination
2. Fill the dropper with the colored solution of your choice, and add it to the graduated cylinder. Two or three droppers full of solution should be added to the cylinder.
3. Repeat step two until all colors have been added to the graduated cylinder
4. If 4 distinct layers do not appear try again, adding the solutions in a new order.
5. Record the final order in the table below and color the graduated cylinder at the top of the page to reflect the final order of the solutions

Solution color	Order in cylinder when 4 distinct layers appear from bottom to top
	D
	C
	B
	A

1. What was the reason that solutions layered when added in one order and solutions mixed when added in a different order? Give a specific example.
2. In each of the following pairs, which has a greater mass?
 - a) 1 kg lead or 1 kg feathers?
 - b) 1 L gold or 1 L of water
 - c) 1 L copper or 1 L silver?
3. Which of the following has the greater volume?
 - a. 1 kg lead or 1 kg feathers?
 - b. 1 kg gold or 1 kg water
 - c. 1 kg copper or 1 kg silver